

REMARKS

Claims 39, 40, 42, 44-47 and 49-70 are pending in the application.

Claims 39, 40, 42, 44-47 and 49-70 stand rejected.

Claims 39, 44, 46, 64 and 66 have been amended.

Rejection of Claims under 35 U.S.C. §112

Claim 44 stands rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Applicants have amended claim 44 to address the Examiner's concerns, and believe the rejection overcome thereby.

Rejection of Claims under 35 U.S.C. §102

Claims 39, 40, 42, 44-47 and 49-70 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Elsey, et al., U.S. Patent No. 6,870,921 B1 (Elsey).

While not conceding that the cited reference qualifies as prior art, but instead to expedite prosecution, Applicants have chosen to respectfully disagree and traverse the rejection as follows. Applicants reserve the right, for example, in a continuing application, to establish that the cited reference, or other references cited now or hereafter, do not qualify as prior art as to an invention embodiment previously, currently, or subsequently claimed.

As will be appreciated, "[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art

reference.” *Verdegall Bros. V. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Applicants respectfully submit that this standard is not met by the disclosure of Elsey.

For example, amended claim 39 now reads as follows:

39. A database system comprising:

a partitionable database, wherein

the partitionable database is owned by a database operator,
the partitionable database is partitioned into a plurality of virtual databases,
each virtual database of the virtual databases of the partitionable database of the
database system comprises a plurality of distinct files,
each of the distinct files is associated with an owner,
the owner is a tenant of the partitionable database,
the owner is other than the database operator, and
each of the virtual databases corresponds to a distinct one of the tenants in such a
manner that a partitioned virtual database for a tenant comprises stored
files associated with the tenant; and

an access control subsystem, wherein

the access control subsystem is coupled to the virtual databases, and
the access control subsystem is configured to provide access to files in a virtual
database of the virtual databases to a user only when the user has access
authorization to the virtual database of the virtual databases from the
tenant who owns the virtual database of the virtual databases.

As an initial matter, the fact that the claimed database system comprises (and affirmatively recites) both a partitionable database and an access control subsystem coupled thereto, is never addressed in the Office Action. No citation of any portion of Elsey is given with regard to the claimed partitionable database. Regardless of whether or not the constituent

elements of the claimed partitionable database are disclosed by Elsey (and Applicants maintain such elements are not), no disclosure of the aggregation of any such elements into a partitionable database or database system is provided by Elsey. Applicants respectfully assert that this infirmity, in and of itself, is sufficient to render the rejection of the instant claims in light of Elsey moot.

Next, the Office Action states that Elsey teaches that "... the partitionable database comprises a plurality of distinct files" The amended claim's recited language now reads, in pertinent part:

"...
the partitionable database is partitioned into a plurality of virtual databases,
each virtual database of the virtual databases of the partitionable database
comprise a plurality of distinct files, and
..."

Thus, as now claimed, the claimed partitionable database includes a plurality of virtual databases, and each of these virtual databases includes a plurality of distinct files. This hierarchy of storage is nowhere shown or even suggested in Elsey.

Cited for these propositions, Elsey reflects such infirmities. As noted, no citation is provided for “partitionable database”. The cited portion of Elsey regarding the partitioning of the partitionable database into virtual databases, and that each virtual database comprises a plurality of distinct files, reads as follows:

“An information hub 10 contains one or more servers 28 which are accessible by the operators in the system and one or more databases 20 on which a plurality of private directories are stored and maintained.” (Elsey, col. 5, line 67, through col. 4, line 3)

As an initial matter, the “private directories” noted above are telephone and informational (e.g., contact) databases, and not directories in the sense of a filesystem. For example, Elsey notes that:

“A corporation may also take advantage of the present invention by keeping the contact information of all of its employees in a private directory database.” (Elsey, col. 4, ll.26-28; Emphasis supplied)

Thus, a given person’s/entity’s database will contain various information pertinent to that person/entity (telephone numbers, contacts, and so on), and how that database is stored (as a file in a filesystem, within a directory in a filesystem, or by some other means) is not apparent from Applicants reading of the cited portions of Elsey.

Moreover, the progressively finer divisions of partitionable database into virtual databases, and those into distinct files, is never reached by Elsey. This is understandable, given that Elsey fails to elucidate any needs for such structures. For Elsey, it is enough that a database with the requisite information exists and access to that database controlled:

“Individuals and groups of individuals, such as corporations, are provided access to one or more private directories. The private directories can be edited by an administrator. Access to the private directories may be limited by administrators of the private directories. Access to private directories is provided via a connection to *directory assistance providers*. Directory service providers are capable of facilitating the administration of the private directories as well as *connecting users of private directories to contacts in the private directories*. Access to the private directory may be obtained via an internet connection.”
(Elsey, Abstract; Emphasis supplied)

Again, as can be seen, Elsey is directed to the provision of contact and other information from conventional databases, to users needing such information. Even if Elsey’s database and the claimed database system were comparable (which Applicants respectfully do not concede), no facility is disclosed or even recognized in Elsey for partitioning a database into virtual databases. Moreover, no hierarchy of storage structures that the claimed invention engenders is disclosed.

As can therefore be seen, the cited portions of Elsey convey no teachings whatever with regard to a partitionable database or a virtual database, or that a partitionable database can be partitioned into a plurality of virtual databases, or that an access control subsystem can be employed to control access to files in a virtual database of the virtual databases of the partitionable database, to give just a few examples. Applicants therefore respectfully assert that Elsey fails to anticipate the claimed invention, if only in these regards.

The aforementioned structure is employed (and recited) as a result of the relationships between the recited database operator, owner tenant (or more generically, tenant) and user. Thus, for example, a database operator can perform operations on a database-wide basis (such as allocating the requisite portion of the partitionable database for a given owner tenant). In turn, a given owner tenant can own one or more of the virtual databases thus partitioned (including the entire database). This translates into a given owner tenant's ownership of one or more distinct files. Such a structure of ownership and control is simply not contemplated by Elsey, for at least the reason that each entity is assigned its own database (Elsey, Abstract; col. 4, ll. 9-25), and not a portion of a partitionable database (i.e., a virtual database).

The aforementioned point regarding the partitioning of a partitionable database is yet another distinction between the claimed invention and Elsey. As noted above, Elsey provides a separate database for each directory (of whatever type of information). (Elsey, Abstract; col. 4, ll. 9-25) The claimed invention, by contrast, partitions a partitionable database into a number of virtual databases, as recited in amended independent claims 1, 46 and 64. Such a concept is completely lacking from Elsey.

In this regard, claim 46 reads as follows:

46. A method comprising:
managing a database system, comprising
granting access authorization to a user for one virtual database of a plurality of
virtual databases by an owner of the virtual database, wherein
the database system comprises a partitionable database,
the partitionable database comprises a plurality of virtual databases,
each virtual database of the virtual databases of the partitionable database
of the database system comprise a plurality of distinct files,
the virtual databases comprise the one virtual database, and
each of the virtual databases has a unique database owner; and
providing to the user access to a file of the distinct files in the one virtual database
after the user has been granted the access authorization.

As to the first element, even prior to amendment, Applicants respectfully submit that the rejection (again based on col. 4, ll. 2-3, of Elsey), fail to show numerous of the recited limitations. Moreover, as amended, the Office Action fails to demonstrate that Elsey teaches the newly added limitations. As with regard to claim 1, claim 46 now more clearly recites the relationship between its database system, partitionable database virtual databases and distinct files. This leads once again to the relationship between database operator, owner tenant and user, giving rise to the aforementioned distinctions.

The foregoing reasons apply equally to claim 64, which can be further distinguished (among even further distinctions) from the teachings of Elsey in the following manner. Claim 64 reads as follows:

64. A method comprising:
- managing a multi-tenant database, wherein
 - the multi-tenant database comprises a partitionable database,
 - the partitionable database comprises a plurality of virtual databases,
 - each of the virtual databases has a distinct owner,
 - each distinct owner is one of the tenants,
 - each of the virtual databases comprises multiple associated groups of data, and
 - the managing comprises
 - setting access privileges for the groups of data in each of the virtual databases based at least in part on the tenant that owns the database; and
 - for each of multiple requests by a user to one of the data groups in one of the virtual databases,
 - determining whether to grant access to the user for the requested data group based at least in part on a relationship of the user to the tenant that owns the virtual database that comprises the requested data group;
 - when the relationship of the user to the owner tenant is determined to be an employee relationship, granting access to the user for the requested data group; and
 - when the relationship of the user to the owner tenant is not determined to be an employee relationship, granting access to the user for the requested data group only when the owner tenant is determined to

have provided access authorization to the user for that requested data group.

With regard to the portion of claim 64 that reads:

“...
the multi-tenant database comprises a partitionable database,
the partitionable database comprises a plurality of virtual databases,
each of the virtual databases has a distinct owner,
each distinct owner is one of the tenants,
each of the virtual databases comprises multiple associated groups of data, and
...”

the following passages from Elsey is cited:

“When a caller seeks to establish a private directory initially, the caller contacts an operator.” (Elsey, col. 5, ll.21-22)

“As explained in greater detail below, a private directory contains contact information specifically tailored to the needs of an individual or corporation. For example, an individual may want to create two private directories.” (Elsey, col. 4, ll.9-12)

“The database owner, in this example, the corporation, sets up access rights to such information. Again, different levels of access may be set up for different employees. For example, some employees may be provided access to the actual contact details contained in the private database. In contrast, other employees may only have the ability to place calls, without being supplied with the contact details of the party called.” (Elsey, col. 4, ll.28-35)

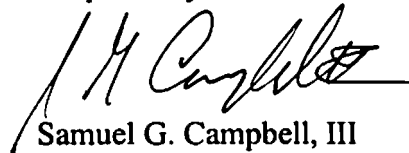
Applicants respectfully submit that, even if (as the Office Action suggests) one can equate “stored files” and “private directory” in the stated manner (which Applicants respectfully do not concede), the limitations recited in the portion of claim 64 reproduced above are not taught by the cited portions (or, insofar as Applicants are able to discern, in any portion) of Elsey. Certainly, Applicants respectfully submit that nowhere in Elsey is there to be found a multi-tenant database that comprises a partitionable database including virtual databases, with each of the virtual databases having multiple associated groups of data. The distinction becomes even greater when the ownership structure is also considered.

Applicants therefore respectfully submit that independent claims 39, 46 and 64 are allowable over Elsey and so respectfully request that the rejection of claims 39, 46 and 64 under §102(e) be withdrawn. Applicants further respectfully submit that dependent claims 40, 42, 44-45, 47, 49-63 and 65-70 are allowable as depending upon allowable base claims in addition to being allowable for various other reasons.

CONCLUSION

In view of the amendments and remarks set forth herein, the application is believed to be in condition for allowance and a notice to that effect is solicited. Nonetheless, should any issues remain that might be subject to resolution through a telephonic interview, the Examiner is invited to telephone the undersigned at 512-439-5084.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'S. G. Campbell, III', with a stylized flourish at the end.

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